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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,374

07/01/2005

Tatsuya Hosotani

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03/18/2010

MURATA MANUFACTURING COMPANY, LTD.

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EXAMINER

LAXTON, GARY L

ART UNIT

PAPER NUMBER

2838

NOTIFICATION DATE

DELIVERY MODE

03/18/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/541,374	<b>Applicant(s)</b> HOSOTANI ET AL.	
	<b>Examiner</b> Gary L. Laxton	<b>Art Unit</b> 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 11-20 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aas et al. (US 6,265,855) in view of Gan et al. (US 7,518,563).

Aas et al. disclose a switching power supply unit comprising: a plurality of switching elements (S1-S3); and a plurality of switching control circuits (figure 5; 5004, 5006, 5008) arranged to turn on a next one of the plurality of switching elements in accordance with a change

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of a voltage or a current generated due to turning off of one of the plurality of switching elements in an ON-state (figure 6), to sequentially turns on and off the plurality of switching elements in accordance with each other, to repeat a series of on-off operations of the plurality of switching elements periodically, determine an ON-period of each of the plurality of switching elements in accordance with a condition individually provided for each of the plurality of switching elements, and to control the ON-period of each of the plurality of switching elements (e.g. col. 1 lines 57-60; col. 4 lines 51-65; col. 5 lines 25-40) ; wherein the plurality of switching elements includes at least first, second, and third switching elements (S1-S3); the plurality of switching control circuits includes at least first, second, and third switching control circuits (5004, 5006, 5008); the first switching control circuit determines an ON-period of the first switching element such that a first output voltage is set to a predetermined value; the second switching control circuit determines an ON-period of the second switching element such that a second output voltage is set to a predetermined value; the third switching control circuit determines an ON-period of the third switching element such that a third output voltage is set to a predetermined value (e.g. col. 6 lines 1-35); and the predetermined values of the first, second, and third output voltages are different from one another.

However, Aas et al. does not disclose an inductor or a transformer; wherein the plurality of switching elements are arranged to switch current flowing in the inductor or the transformer.

Gan et al. teaches a control scheme for a power supply with multiple outputs comprising a front end DC converter (210) having an inductor and transformer and wherein the multiple outputs comprising multiple switching regulators with a plurality of switches (Q1, Q2) for

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producing plural outputs. The front end DC converter comprising the inductor and transformer affords the power supply the ability of precise output regulations (col. 1 lines 17-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Aas et al. to include an inductor or a transformer; wherein the plurality of switching elements are arranged to switch current flowing in the inductor or the transformer in order to provide a power supply having multiple outputs and precise output regulation of the multiple outputs as taught by Gan et al.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,034,232 LaVenture discloses a system for synchronizing switching regulators.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Lewis can be reached on (571)272-1838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gary L. Laxton/  
Primary Examiner, Art Unit 2838

3/13/2010